Textbook Alignment to the Utah Core – Discrete Mathematics

This alignment has been completed using an "Independent Alignment Vendor" from the USOE approved list (www.schools.utah.gov/curr/imc/indvendor.html.)   *Yes _X___   No _____*

Name of Company and Individual Conducting Alignment:
Pete Barry, Independent Contractor

A "Credential Sheet" has been completed on the above company/evaluator and is (Please check one of the following):

X On record with the USOE.

☐ **The "Credential Sheet" is attached to this alignment.**

Instructional Materials Evaluation Criteria (name and grade of the core document used to align): Discrete Mathematics, Grades 11-12

Title: Thinking Mathematically, 4th Edition (c) 2008, (Blitzer) ISBN#: 0-13-134678-4 (SE); 0-13-175206-5 (IE);

Publisher: Pearson

Overall percentage of coverage in the *Student Edition (SE) and Teacher Edition (TE)* of the Utah State Core Curriculum: 85%

Overall percentage of coverage in *ancillary material*s of the Utah Core Curriculum: _____%

Topics for discrete mathematics are formed by combining a topic from combinatorics with a topic from graph theory. These topical ordered pairs (combinatorics topic, graph theory topic) are selected from the following lists according to teacher interest and expertise:

	Percentage of coverage in the *student and teacher edition* for
	    Standard I: <u>85</u> %
			Percentage of coverage not in student or teacher edition, but covered in
			    the *ancillary material* for Standard I: _____%	

OBJECTIVES & INDICATORS		**Coverage in *Student Edition(SE) and Teacher Edition (TE)* (pg #'s, etc.)**	**Coverage in *Ancillary Material* (titles, pg #'s, etc.)**	*Not covered in TE, SE or ancillaries* ✔
Combinatorics				
	• Set cardinality	**48-49, 52-55, 56-57, 61-65, 67, 75-76, 77-78, 92-96, 97-100**		
	• Set theoretic foundations of addition, subtraction, and multiplication on {whole numbers}	**An opportunity to address this standard can be found on: 61-65, 66-67, 70-74, 76-77, 79-85, 86-90, 197-201, 202, 203-207, 208, 209-214, 215, 216-220, 221-222, 749-754, 755-756, 760-764, 765-767**		
	• Basic counting (multiplication and addition principles)	**31-32, 61-64, 66, 608-612, 613-619, 620, 621-625, 626, 628-632, 633-634, 636-639, 640, 641-645, 647-649, 650-652, 653-658, 664, 666-668, 778-779, 782-784**		
	• Binomial coefficients (subsets of sets)	**11, 61-64, 66-67, 101-102, 104**		
	• Recurrence relations (induction)	**3-8, 9-12, 288-294, 295-297**		

	• Special cases (e.g., partition numbers, Fibonacci sequences)	**65, 197-200, 201-202, 204-207, 208, 245, 272-273, 276-277, 288**		
Graph Theory				
	• Definition of a graph via modeling sets and relations on sets	**53-54, 65-66, 824-825, 864**		
	• Definition of directed graph via modeling non-symmetric relations	**An opportunity to address this standard can be found on: 825-831, 832-833, 834-840, 841-844, 845-851, 852-854, 855-860, 861-863**		
	• Investigations of specialized classes of graphs via modeling more restrictive relations	**An opportunity to address this standard can be found on: 846-851, 852-854, 855-860, 861-863**		
	• Modeling specialized problems (e.g., involving Euler circuits, traveling salesperson problem, DNA encryption)	**32-33, 36, 825-831, 832-833, 834-840, 841-844, 845-851, 852-854, 855-860, 861-863**		
	• Special cases (e.g., problems involving traffic light sequencing, network flows, scheduling)	**826-829, 831, 832-833, 847-851, 852-854, 859-860, 862-863**		